Introduction to WebObjects Tools

Session 702

Introduction to WebObjects Tools

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What You Will Learn

- What are the tools used to build WebObjects Applications

- How to build a basic application

WebObjects Tools

- Project Builder
- WebObjects Builder
- EOModeler
- EOBeanBuilder
- RuleEditor

EOModeler Introduction

- What is an EOModel?
- What does EOModeler offer to *you?*

Project Builder Introduction

- Create a new Project

- Examine the Resources

- Compile a Project

- Launch an Application

WebObjects Builder Introduction

- Edit the Components in our Project

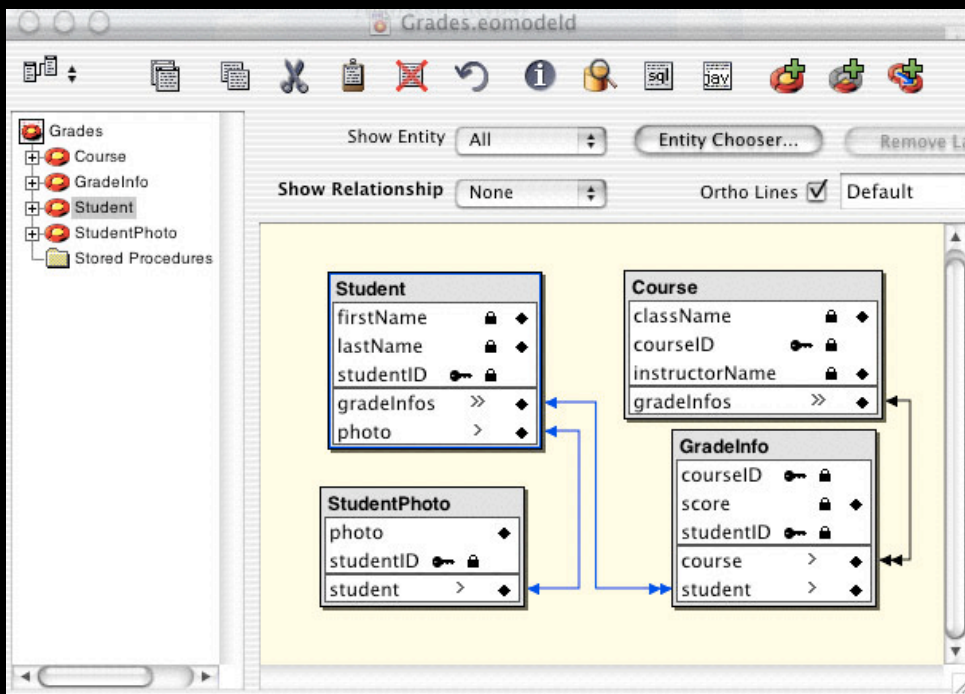- Show path view for HTML selection and manipulation

- Show binding validation

Example: A Common Web App

- Real Estate Application: Query and list information on houses, prices, etc.

EOModeler

Enterprise Objects (EOs) are Java objects which represent records in a data store

- Manages an EOModel
- Provides persistent data store connectivity
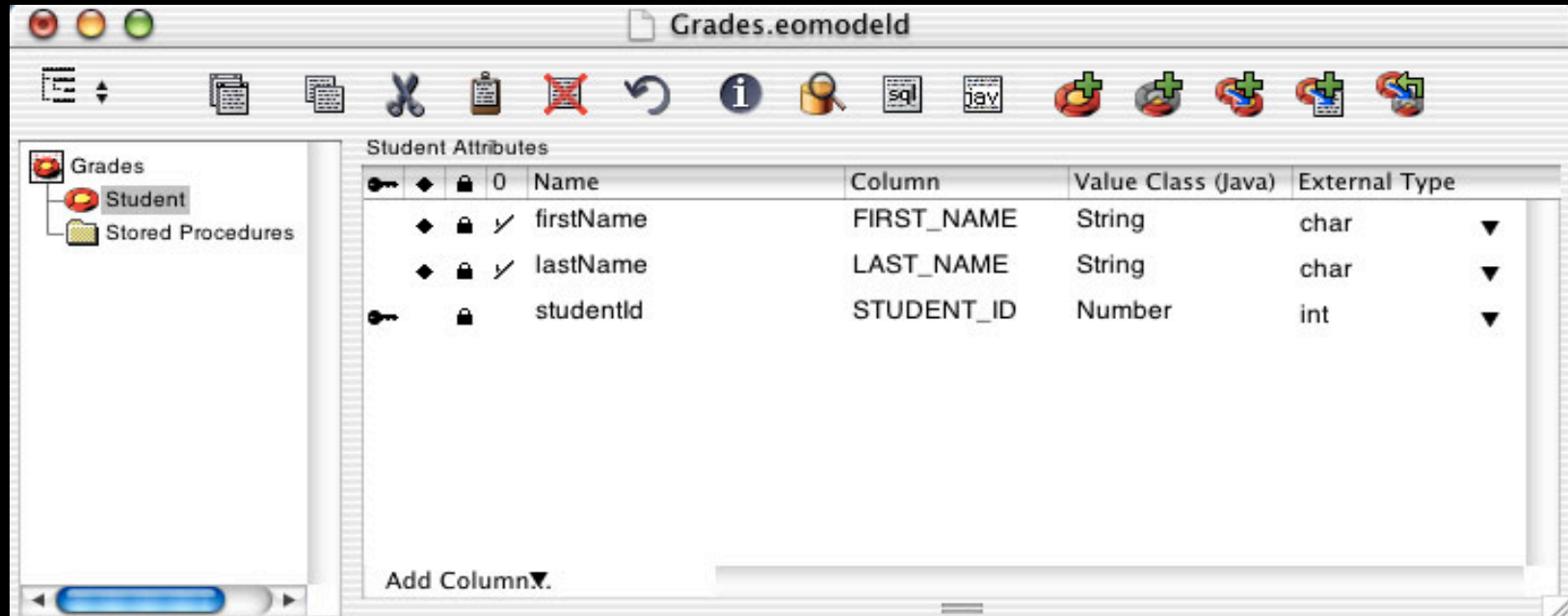- Maps data into objects
- Defines relationships

EOModeler: Provides Persistent Data Store Connectivity

- Each EOModel in a WebObjects app connects to a specific data source

  - Oracle, OpenBase
    (usually a RDBMS via JDBC)

- Maps native data types into Java types

  - Varchar becomes java.lang.String

  - int becomes java.lang.Number

EOModeler:
Maps Data Into Objects

- There is usually a 1:1 mapping
    - Between columns and EO attributes

EOModeler:
Maps Data Into Objects

- Creates templates for custom business logic

```
public class Student extends EOGenericRecord {
    public String firstName() {
        return (String)storedValueForKey("firstName");
    }

    public void setFirstName(String value) {
        takeStoredValueForKey(value, "firstName");
    } ...
```

```
public String fullName() {
    return firstName() + " " + lastName();
}
```

EO Middleware

- The EOModel is the tip of the iceberg
  - EOModeler works with EOF to keep EOs in memory synchronized with the database and vice versa

```
students =
EOUtilities.objectsMatchingKeyAndValue(editingContext,
"Student", "lastName", "Smith");

((Student)students.objectAtIndex(0)).setLastName ("Jones");

editingContext.saveChanges();
```

EOModeler provides
a layer of abstraction that
minimizes the cost
of change

Demo

EOModeler

Tom and Stan

Project Builder

- The IDE for WebObjects 5.x applications
- Manage resources
  - Static and Dynamic HTML (WebObjects Builder)
  - Database mapping (EOModeler)
- Edit and debug code
- Build applications, frameworks, or custom projects
- Launch and debug application

Project Builder Assistants

- Project assistants
- File assistants

Project Assistants

- Help with new project creation

- Build compilable skeleton projects

- Add basic resources based on project type and EOModel analysis

File Assistants

- Used to add files of specific types to a project
    - Java classes
    - Web components
    - Java Client nibs

Demo

Project Builder: WebObjects Assistants

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Project Structure
in Project Builder

- Target Structure

- WebObjects build system is a modified version of the standard Mac OS X build system
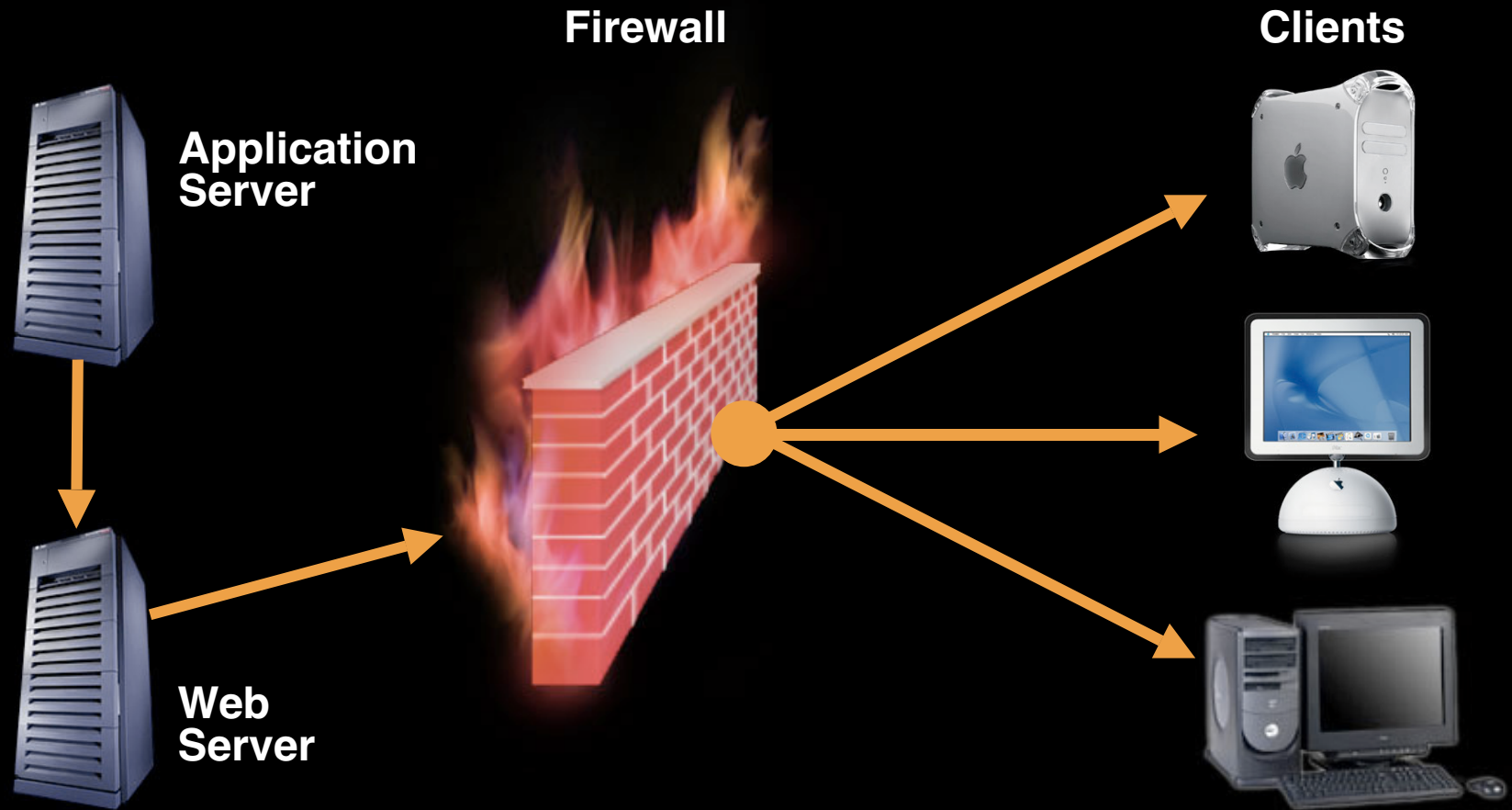
What Is a Target?

- Defines which files are part of a particular component of a built product

- One file can be part of multiple targets

Typical Deployment Scenario

Web Server Target

- Static images

- Static HTML

- Client-side Java classes

- Java Client nib files

- Anything that gets accessed through a "normal" URL

Application Server Target

- Dynamic content
- Server-side Java classes
- Web components
- Images generated on the fly
- EOModels

Target Warning

- Do not rename them
- Mess with settings only if you really have to

Demo

Project Builder: Targets

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WebObjects Builder

- Editing of HTML
- Binding of HTML to Objects in your Project
- Integration with EOModeler to bind HTML to persistent data
- Integration with Project Bulder for code synchronization

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WebObjects Builder

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Rapid Turnaround Mode

- Improves development speed by reducing the number of times you have to build the project

- No need to perform a full split install

- Allows tweaking of HTML components

- Allows changing resources, such as images

- No need to use a web server

Rapid Turnaround Mode

- Project Builder needs to be running

- WOF and WOB communicate with PB to get the resources

Demo

Rapid Turnaround

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CVS Integration
in Project Builder

- What is CVS?

- What can it do for you on
  Mac OS X and WebObjects?

What Is CVS?

- Concurrent Versioning System
- Open source
- Comes with Mac OS X
- Cross-platform
- Command-line only
- Apple loves it and uses it internally ♥

How Does Project Builder Help You With CVS?

- Shows you when you add/delete/rename/modify a file

- Supports deletion of individual files or file wrappers (e.g., *.wo files)

- Allows remote CVS servers

- Supports security

Demo

CVS Support

Tom once again!

WebObjects Lab

- Located downstairs in Room L
- Lab hours
  - Monday   12:00pm–6:00pm
  - Tuesday   9:00am–2:00pm*
  - Wednesday   9:00am–6:00pm
  - Thursday   9:00am–6:00pm
  - Friday   9:00am–6:00pm
  *Conversion Workshop Tuesday 2-6pm. Sign up in Lab

Roadmap

711 Advanced Data Modeling and Connectivity	Room A1 **Thurs., 3:30pm**
FF013 WebObjects	Room A1 **Fri., 3:30pm**

Who to Contact

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http://developer.apple.com/wwdc2002/urls.html

For More Information

- WebObjects Developer Documentation
  http://developer.apple.com/techpubs/webobjects

- Apple Professional Services Technical Support
  www.apple.com/services/technicalsupport

- Other places
  www.apple.com/webobjects
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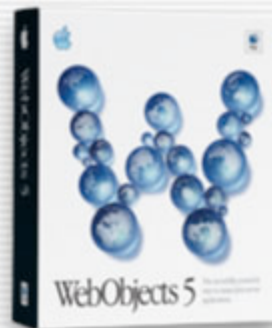
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